

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

690 Walnut Ave.St. 150

Vallejo, CA 94592-1133

(707) 649-5453

(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026062**Date Inspected:** 16-Aug-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

<b>CWI Name:</b>	William Sherwood and John Pagliaro			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Bridge No:</b>	34-0006			<b>Component:</b>	SAS Tower		

**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At East Bound Bike Path, this QA continuously observed ABF Stud welder Julian Paulk ID#7796 perform stud welding on top of the cantilever beam bike path support. The welder was noted stud welding 7/8" diameter 11 7/8" long with 9 threads per inch pitch threaded stud. The welder was also noted using the Tru Weld Equipment stud machine that was programmed to working current of 1900 amperes and welding time of 1.1 seconds implementing Caltrans approved welding procedure specification ABF-WPS-D15-5001-Stud.

Prior to welding the threaded studs, ABF welder Julian Paulk has welded two test studs similar to the studs to be welded and position that will be welded on top of the bike path cantilever beam. The two welded studs exhibited a full 360 degrees flash after welding. After ABF QC and this QA have completed the VT, the welder bent the two studs to 90 degrees using the 10 pounds sledge hammer exhibiting no fracture occurrence onto the weld and plate material.

The welder was noted welding at flat position using 7/8" diameter ceramic ferrules attached to the end of the stud being welded. The ceramic ferrules intended for flat position were noted new and dry. The top surface of the cantilever beam to be welded was ground and paint coating removed. The plate surface was preheated using a propylene gas torch prior stud welding. During welding, ABF QC William Sherwood was noted monitoring the welding parameters of the welder and checking each stud every panel point location. QC has visually accepted

---

## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

---

four (4) welded studs at Panel Point (PP) location PP95. This QA has also verified the four (4) welded studs on PP95 and noted 360° flash all around each stud.

At Tower Base Elevation 13Meters, Electro Slag Welding (ESW) T-joint W-042 location 'M', QA randomly observed ABF/JV welder Jeremy Dolman perform excavation on the remaining linear indications that were left unremoved due to excavation thickness restriction ( $\frac{2}{3}$  x plate thickness). The welder was noted excavating the opposite side of the ESW vertical weld repair that was welded yesterday using carbon air arc gouging then followed by die grinder. The final dimensions after excavation were 220mm long x 50mm wide x 31mm deep and was tested using the Magnetic Particle Testing (MT) by ABF QC John Pagliero. The result of the MT was affirmative and the linear indications that were left were deemed removed. This QA performed verification on the excavation and the defect removal and noted same result.

After the completion of the excavation and the acceptance of the MT, ABF/JV qualified welder Richard Garcia was observed performing the welding repair. The welder was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repairs. The weld repair was preheated to more than 300 degree Fahrenheit using propylene gas torch prior welding. During the shift, ABF QC John Pagliero was noted monitoring the welder. Measured welding parameter during welding was 140 amperes on a 1/8" diameter E7018H4R electrode. At the end of the shift, welding repair on the opposite side of the ESW excavation was still continuing and should remain tomorrow.

At Tower Base Elevation 13Meters South shear plate, ABF foreman Rory Hogan informed this QA and ABF QC John Pagliero that the bevel preparation was completed. ABF QC John Pagliero performed a visual test (VT) and measured the bevel angle and depth of the completed bevel prep. Mr. John Pagliero informed this QA that the cut surface of the bevel was smooth, the measured bevel angle was 41 degree and the depth was 40mm as required. According to QC, the bevel prep was deemed acceptable to contract requirements. This QA performed the verification and noted the same results.

Other related activities noted during the shift include excavation using carbon air arc gouging on the UT detected defect of ESW T-joint #N-041 location 'N'. Carbon air arc gouging was still ongoing at the end of the shift.

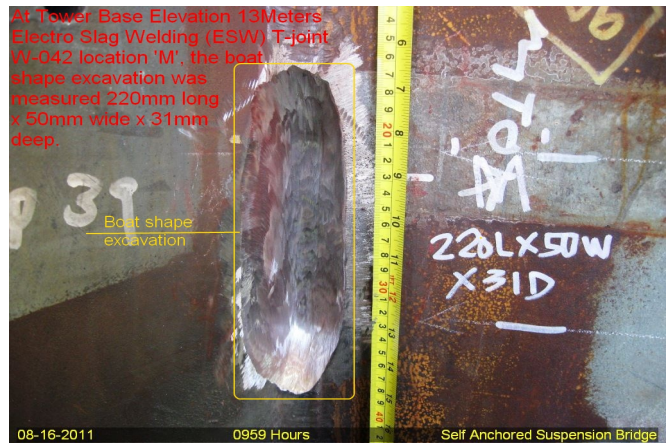
ABF welder Rory Hogan has moved to the other shear plate location North shear plate and set up the track mounted cutting torch nozzle holder after the completion and acceptance of the South shear plate. Both activities were still ongoing at the end of the shift and should continue tomorrow.

---

# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

---



## Summary of Conversations:

No significant conversation occurred today.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

---

**Inspected By:** Lizardo, Joselito

Quality Assurance Inspector

---

**Reviewed By:** Levell, Bill

QA Reviewer